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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,481	01/09/2002	Guy Marck	08130.0076	6445

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Washington, DC 20005

EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
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1713

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DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,481

Applicant(s)

MARCK, GUY

Examiner

Tatyana Zalukaeva, PhD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-7, 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1 recites formula (I), wherein A represents a nitrogen atom. According to the formula nitrogen atom should have a valence of four, and therefore cannot represent A, as claimed. Same with the possibility that A is CR¹, in this case one valence of carbon is already occupied by R¹, and only three bonds are left, however, wherein n₁, n₂ and n₃ are not zero, carbon will have more than four bonds, which cannot exist, same with other groups defined for A in claim 1, lines 7-15.
- If the whole formula (I) is denoted as a repeating unit in a preamble to claim 1, it is not clear what is meant by M being also a repeating unit, if this is a copolymer comprising different repeating units, it should be stated so.
- The recited in claim 4 meanings for M, such as acrylamide, methacrylamide, etc. in the context of formula (I) is indefinite, because in formula (I) M is attached to B⁴, and therefore, M should be a radical, but not an independent compound.
- The recited in claim 5 "pre-finished monomers" constitute an indefinite subject matter, because the metes and bounds of such are not readily ascertainable.

- The recited in claim 6 "functional polymer analogue of a polymer according to claim 1" is indefinite, because if the compound according to the formula (I) of claim 1 is produced, what is a polymer analogue according to claim 1, in other words the is non-establishment of antecedency for polymer analogue.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

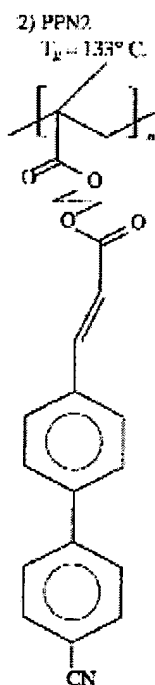
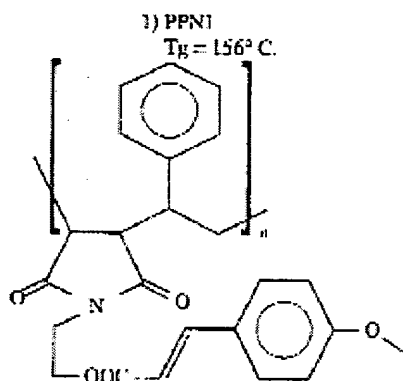
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-7, 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schadt et al (U.S. 5,602,661).

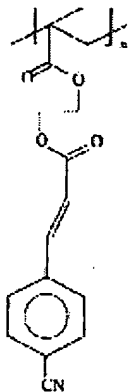
A Schadt discloses an optical component includes an anisotropic layer of cross-linked liquid crystal monomers with varying local orientation of the liquid crystal molecules. The liquid crystal layer is in contact with an orientation layer

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comprising a photo-orientable polymer network (PPN). A method of making includes orienting the liquid crystal monomers by the interaction with the PPN layer and subsequently fixing the molecules by cross-linking (abstract). Suitable PPNs are described by generic formulas PPN1, PPN2 and PPN3 in col. 2 and 3:



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PPN3

The generic formula (I) presented in the instant claim 1 that allows a wide variety of permutations for all groups, for example A is carbon or substituted carbon, , M is a repeating monomer unit, such as ones presented by -- []---_n of Schad, one or more of n1, n2, n3 or n4 is zero, P1-P3 are photoactive groups, denoted as aromatics or maleimide derivatives as seen in Schad, B1-B4 are spacer groups, which can bge anything from the single bond to any compounds, as allowed by permutations described in the instant claim 1 (note that n4 and n5 can be independently zero). (page 70, lines 1-5).

Therefore, a person skilled in the art would have found the obvious analogy between generic formulas of the instant claims under certain permutations in light of more specifically described compounds of Schad.

Allowable Subject Matter

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6. Claims 12 and 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims

No prior art of record discloses or suggests specific compounds identified by the instant claims 12 and 13.

7. Other prior art cited in PTOL-892 shows the state of the work in the field of optical layers comprising polymers having photoactive containing groups.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva, PhD whose telephone number is (703)308-8819. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

TATYANA ZALUKAEVA
PATENT EXAMINER

December 30, 2002



Tatyana Zalukaeva, PhD
Primary Examiner
Art Unit 1713